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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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P/1071-1245 (DIV)

4365

7590

03/01/2004

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EXAMINER

MITCHELL, JAMES M

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/734,457

Applicant(s)

OZASA, TOSHIAKI

Examiner

James M. Mitchell

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 6-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 032202.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Allowable Subject Matter***

The indicated allowability of claims 7-15 is withdrawn in view of the newly discovered reference(s) to Prakash et al. (US. 4,517,155) and TDK (JP 57-11881).

Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 recites the limitation "the porous structure" in Line 5 . There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6-7, 12 and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Prakash et al. (US 4,517,155).

Prakash (Fig 1a, b) discloses a method for producing a chip of a ceramic electronic component having inner wiring electrically connected to a terminal electrode on the outer surface of the electronic component, comprising the steps of: providing

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said electronic component having inner wiring ("embedded electrodes"; not labeled); forming an inherent first conductive paste film (via film comprised of multiple 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, contiguous layers) containing conductive particles (Col. 2, Lines 29-31) to form a first layer by baking on a portion of the outer surface of the electronic component; forming at the side of the first conductive paste film exterior to the electronic component, a second conductive paste layer containing conductive particles ("copper"; Col.3, Lines 1-2) within the range of .5 to 6 micro meters and a cellulose additive ("organic binder"; Col. 2, Lines 38-40; Col. 3, Lines 31-33) which burns out when the layer is baked to form a second layer; forming a third conductive paste layer containing conductive particles to form a third layer by baking at the side of the second conductive paste film exterior to the first layer; and baking the resulting composite (heating and firing in a Kiln; Col. 4, Lines 15-18, Col. 5, Lines 67-68); further comprising the step of adjusting the content of additive (between 15-30%; Col. 3, Lines 40-41) in the second conductive paste film.

Although Prakash does not appear to explicitly disclose that the intended purpose of the step of adjusting is to obtain a predetermined void ratio in a porous structure of the second layer after baking, this is an inherent result of the process of Prakash because the process would inherently result in a void ratio in a porous structure (via burn out) of the second layer after baking, and the void ratio would be inherently predetermined by the content of the additive. In any case, the limitation, "in order to obtain a predetermined void ratio in the porous structure of the second layer after baking," is merely a statement of intended purpose which

does not result in a manipulative difference as compared to the process of Prakash. Furthermore, because the process of Prakash is inherently capable of being used for the same intended purpose, the statement of intended purpose does not patentably distinguish the claimed process from the process of Prakash.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over TDK (JP 57-11881) in combination with Prakash et al. (US 4,517,155).

TDK (Fig 2; English Title, Abstract) discloses a method for producing a chip of a ceramic electronic component having inner wiring electrically connected to a terminal electrode on the outer surface of the electronic component, comprising the steps of: providing said electronic component having inner wiring (via bottom layers 1, 2); forming a first conductive paste film (via 1<sup>st</sup> layer 2 above bottom layer 2) containing conductive particles to form a first layer by baking on a portion of the outer surface of the electronic component; forming at the side of the first conductive paste film exterior to the electronic component, a second conductive paste layer (via 2nd layer 2 above bottom layer 2) containing conductive particles ("powder") and an additive ("organic vehicle") which burns out when the layer is baked to form a second layer; forming a third conductive

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paste layer (via 3rd layer 2 above bottom layer 2) containing conductive particles to form a third layer by baking at the side of the second conductive paste film exterior to the first layer; wherein the second conductive paste film is dried prior to the step for forming the third conductive paste film.

TDK does not appear to show baking the paste layers comprising cellulose additives, adjusting the content of additive in the second conductive paste film in a predetermined void ratio in a porous structure of the second layer after baking or that the conductive particles' size ranges from .5 to 6 micrometers.

Prakash utilizes baking paste layers with an additive comprising cellulose, adjusting the content of additive in the second conductive paste film in a predetermined void ratio in a porous structure of the second layer after baking with that the conductive powder having particles within a size ranging from .5 to 6 micrometers (Col. 3, Lines 1-2).

It would have been obvious to one of ordinary skill in the art to form the conductive paste with conductive particles from 1-10 micro meters and an organic vehicle of TDK of cellulose, including baking the modified paste of TDK, adjusting additives in a predetermined void ratio, in order to heat the paste as required by TDK (English Abstract) and to provide terminations with excellent electrical and mechanical properties as taught by Prakash (Abstract).

Furthermore with respect to claim 7, this limitation is merely a statement of intended purpose which does not result in a manipulative difference as compared to the process of the prior art. Furthermore, because the process of TDK is inherently capable

of being used for the same intended purpose, the statement of intended purpose does not patentably distinguish the claimed process from the process of TDK

With respect to claims 8, 13 and 19, TDK nor Prakash appear to disclose a method of a second conductive paste film being simultaneously baked with the conductive paste.

In any case, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed sequence because applicant has not disclosed that the limitation is for a particular unobvious purpose, produces an unexpected result, or is otherwise critical. Moreover, it is well established that, in a well known process, the order of performing process steps is prima facie obvious in the absence of new or unexpected results. Ex parte Rubin 128 USPQ (PO BdPatApp 1959).

### ***Response to Arguments***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 6:30-3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jmm

A handwritten signature in cursive script, appearing to read 'Jm e mv'.

DAVID E. GRAYBILL  
PRIMARY EXAMINER